

**REPORT**  
**MADE TO THE ACADEMY OF MEDICINE**  
**ON THE USE OF**  
**GÉLIS AND CONTÉ'S DRAGEES**  
**OF**  
**LACTATE OF IRON.**

---

BY A COMMITTEE COMPOSED OF

Drs. FOUQUIER, Professor of Clinics to the Faculty of Medicine of Paris;

BALLY, President of the Academy, and Physician to the Hospitals;

BOUILLAUD, Professor of Clinics to the Faculty of Medicine of Paris, *Reporter*.

---

« GENTLEMEN,

» The Academy having appointed us (Drs. Bally, Fouquier, and myself) to report on a memorial presented by Messrs. Gélis and Conté on the use of the *Lactate of Iron*, we now proceed to the performance of the task confided to us.

» You are all aware, Gentlemen, that Iron is one of those medicines, which in certain well-defined cases have so fully proved their virtues, that it is quite impossible to doubt their efficacy. In this Report therefore, we have not to discuss the therapeutic action of Iron or Steel, since no practitioner can entertain a doubt upon that subject. The only question we have to examine is, whether the new preparation of Iron proposed by Messrs. Gélis and Conté really possesses the qualities they ascribe to it, and whether it can be advantageously employed in practice.

» The ferruginous preparations already recommended are rather numerous, and it is highly probable that we shall see many more yet. Not long since you heard an excellent Report from our colleague, Dr. Martin-Solon, on Mr. Vallet's Pills, which most members of the Academy have had frequent occasion to employ with advantage. We may say the same of Mr. Bland's Pills, which have long been held in high esteem. At first

2

view it would appear altogether unnecessary to seek after new preparations of Iron. Yet, Gentlemen, if it is true in therapeutics as in other things, that in aiming at what is better we often neglect what is good, it is also true that we may too long rest satisfied with what is good when *better* might be attained. It is right that we should neglect no means of replacing the *good* by *better*, and if experience should demonstrate that this new preparation of Messrs. Gélis and Conté is *better* than any hitherto proposed, however good they may be, most certainly it ought to obtain the preference.

» The object of this Report is precisely to lay before the Academy the facts necessary for the solution of this practical problem.

» We will begin by presenting an abstract of MM. Gélis and Conté's treatise.

» The medicinal virtues of Iron, say the authors in question, are fully established: the services it every day renders in medical practice have given it rank among the most valuable medicaments employed. After bestowing upon it the high-sounding title of a *real specific* in chlorosis, MM. Gélis and Conté enumerate the principal forms in which Iron has hitherto been administered, show *their inadequacy* (the authors' own expression), propose to replace them all for internal use by a combination of protoxide of iron with lactic acid, and then adduce clinical facts in support of their theories.

» MM. Gélis and Conté divide ferruginous preparations into two categories, the insoluble, and the soluble. Among the first they mention the carbonates and oxides of iron, iron filings, and the preparations to which MM. Blaud and Vallet have given their names. Their complaint against these substances is that they are effective only in very large doses, and at the same time excite great repugnance in the patient. With regard to the preparations of MM. Blaud and Vallet, they add that outward appearance is little in their favor; and that if kept long they are liable to undergo changes which may modify their medicinal properties.

» The soluble preparations of iron should therefore be preferred, simply because they are soluble, and for that reason easily absorbed into the system. Nevertheless, remark MM. Gélis and Conté, very few physicians prescribe them; and this they attribute, 1. to their liability to spoil, which is sometimes very great; 2. to their disagreeable taste, which the modes of administering hitherto used but very imperfectly obviate; 3. to the pains their use often inflicts on patients; 4. to the fact that some few of them, but precisely those most used, have a deleterious action upon the tissues, and contain iron in combination with powerful acids, which cannot be introduced into the system without danger.

» As to ferruginous mineral waters, like those of Passy, Spa, etc., the quantity of iron they contain is so small, that a course of treatment in which they alone are used must necessarily be very protracted and frequently inefficacious.

» On these grounds MM. Gélis and Conté came to the conclusion that something yet remained to be said and done touching this point of the *Materia Medica* and therapeutics. They, accordingly, in their turn, set zealously to work, and they flatter themselves with having discovered in the Lactate of Protoxide of Iron a new medicinal agent preferable to all those of the same kind previously employed.

» They think that the forms in which they produce this agent satisfactorily obviate all the inconveniences attending the preparations of soluble iron.

» The following are the principal reasons which induced MM. Gélis and Conté to make choice of the ferruginous combination which they propose:

» 1. Lactic acid is abundantly diffused through the human frame: (Berzelius found it in the muscular flesh, in all the secretions, in the perspiration, in the urine, wherein it was partially combined with urea, according to the recent researches of MM. Cap and Henry) (1), MM. Gélis and Conté add that M. Mitscherlich acknowledges this acid to be continually formed in the lungs, and on that hypothesis he explains the chemical phenomena of respiration. Happily for MM. Gélis and Conté and for their Lactate of Iron, it is possible to appreciate the advantages of this new preparation without sharing the opinions of M. Mitscherlich.

» 2. All modern writers who have treated on ferruginous preparations and the forms under which they may be administered, have thought it essential to present the iron in such a state that it might be easily transformed by the acids of the gastric juice. Now the researches of Berzelius, Tiedmann and Gmelin, Dumas, Leuret, and Lassaigne, have shown that the gastric juice contains lactic acid in such proportions that the powerful dissolving properties of that juice might be attributed to its presence, and the only other element the juice appears to contain is some slight trace of hydrochloric acid. Lactate of Iron is therefore formed in the stomach; add MM. Gélis and Conté, and the nature of the vase has probably no influence whatever on the chemical reactions. This assertion is borne out by the results of certain experiments which they made for the purpose of ascertaining the action of lactic acid on some of the commonest ferruginous preparations. They found that the preparations which most readily dissolve in that acid are precisely those which practitioners have found to possess the most active properties. Iron-filings, for instance, which dissolve very easily in dilute lactic acid, operate in much smaller doses than the sulphate of iron, which the same acid will not dissolve.

» Proceeding on these data, MM. Gélis and Conté were led to the conclusion that iron, when it acts, is probably transformed into lactate of iron, and on this ingenious theory, they came to the very natural idea of the direct administration of Lactate of Iron. Thenceforth all the stomach had to do was the simple act of absorption, and the effect of the ferruginous medicament was no longer dependent on the greater or less acidity of the gastric juice.

» However, » continue MM. Gélis and Conté, « these ideas, though suggested by so rational a theory, were still only presumptions, and it was indispensable to submit them to the test of practical experience. » They mention the physicians to whom they communicated their ideas, and who agreed to try the new preparation: they were Drs. Fouquier, Rayer, Bally, Beau, Nonat, and your Reporter.

» The lactate of the protoxide of iron is very easily prepared, and is administered in the form of Dragees, and Pastilles, etc. (In the sitting of the 25th November last, MM. Gélis and Conté, presented to the Academy samples of their Dragees, differently flavored, and each containing one grain (5 centigrammes) of Lactate of Iron.) The sugar which enters into the composition of these Dragees renders the suroxidization of the iron impossible, so that at the same time it preserves the medicine from all deterioration and also makes it very pleasant to take.

» After thus declaring that the medicine they propose combines all the advantages of the soluble preparations of iron without any of their inconveniences, seeing that it is readily assimilable, uninjured by keeping, and can be taken without the least repugnance, MM. Gélis and Conté conclude with quoting ten cases of chlorosis successfully treated with Lactate of Iron in the practice of the physicians already mentioned.

(1) See *Bulletin de l'Académie de Médecine*, III, p. 220.

» Such, Gentlemen, is the substance MM. Gélis and Conté's work.

» Before we proceed further, we will apprise the Academy of the results obtained by the Reporter and another member of your Committee, Professor Fouquier.

» The following results were obtained by the Reporter in twenty-one cases, fourteen of which were at the hospital. All of them, with one exception, relate to those general or constitutional morbid states known as chlorosis (green-sickness) and anæmia.

» Setting aside the seven cases observed in his private practice and one in the hospital, which had nothing to do with either chlorosis or anæmia, we have thirteen cases that we must notice at some length.

» In these thirteen cases, three of the patients were males and ten females. In two of the former the affection was a clearly characterized anæmia, and in the third the anæmia approached the chlorotic state properly so called.

» Of the ten cases presented by the female patients, eight were perfectly characterized chlorosis, or, as expressed in the diagnosis, "*model chlorosis*;" the two others belonged to the category of chloro-anæmia, and were equally well characterized. In nearly all, the menses had ceased for one month or more, and in several leucorrhœa had existed for long or short periods.

» The diagnosis was made with the utmost care. This precaution, as may naturally be supposed, is of great importance, and it would be a grievous mistake to suppose that such a diagnosis is a very easy matter for every body. This diagnosis is, in fact, easy enough for all who have had long clinical practice, and are perfectly familiar with the accurate methods which have been so successfully, but at the same time so laboriously, acquired by modern practitioners. But the case is very different with persons who are not accustomed to the methods in question, or who, if they are, neglect to practice them. In fact, there are no diseases in which the diagnosis is so likely to be erroneous as in chlorosis and anæmia, when all the symptoms peculiar to them are not accurately observed. Owing to this difficulty, several of our patients had been treated for diseases of the heart, of which there was no positive symptom, or for gastric irritations, and most of them had been bled once or more, whereas they in reality rather required the infusion of more and richer blood into their veins, if the medical art possessed the means of beneficially effecting that operation.

» I must however take for granted that the elements of an exact diagnosis for chlorosis and anæmia are perfectly known, and proceed.

» The dose of Lactate of Iron which we administered to our patients was six, eight, ten, twelve, and even fifteen dragees, containing each five centigrammes (one grain) of that substance. (The dragees were generously supplied by M. Gélis, at that time attached to the hospital as apothecary.)

» The Dragees were continued for eight, ten, or fifteen days at most.

» Each of the chlorotic patients took on an average 6 to 8 grammes (90 to 120 grains) of Lactate of Iron.

» The medicine agreed perfectly with all the patients. It only leaves a slight inky taste, to which they soon got accustomed. Your Reporter himself experienced this same sensation for some ten days, during which he took 108 dragees of Lactate of Iron; but it is not very unpleasant, and soon passes away.

» One of the first effects produced by Lactate of Iron was found to be a decided increase of appetite, to such an extent indeed that some patients

said they felt as if they could never eat enough. With a view to ascertain the reality of this latter fact, your Reporter took some of the Lactate himself. He also thought that his appetite became keener, but he admits that on this point he is not a very competent judge, and would rather rely on the declarations of the patients, most of whom were better able to decide that question than himself.

» The patients gradually recovered strength; they could walk upstairs more easily; the palpitation and puffing, the giddiness and head-ache insensibly diminished; the complexion recovered its *color*; the *rushing and wheezing of the arteries* (especially the carotid and subclavian), the blowing produced by the contraction of the heart, all lost their intensity, and the menses returned in some of those suffering from chlorosis.

» Not one of our patients but was benefited by the use of the Lactate of Iron, and all, on leaving the hospital, were in a most satisfactory state (1).

» Such were the results obtained by your Reporter; they differ in no respect from those observed by Professor Fouquier, as stated in a note signed by himself and Dr. Hardy, the clinical professor, and annexed to this Report.

» In numerous instances, say Drs. Fouquier and Hardy, we have employed the Dragees of Lactate of Iron in cases of chlorosis complicated with amenorrhœa. After three or four days we always noticed an increase of appetite, and to such an extent in more than one patient that they complained of the three-quarter ration as insufficient; one woman even left the hospital because she could not satisfy her hunger. After fifteen or twenty days the chlorotic symptoms had disappeared; the noise of the wheezing in the carotid arteries was still perceptible, though very slight (in two cases it had entirely ceased). In the case of a lady out of doors, who presented the most decided chlorotic symptoms, and had suffered from amenorrhœa for fourteen months, the menses, replaced for six months past by a monthly hemorrhoidal flux, returned after she had taken the Lactate of Iron six weeks in doses of twelve grains. The chlorotic symptoms had altogether disappeared before the menses returned.

» Your Committee are fully aware how necessary it is to be extremely cautious in deciding as to the merits of new medicines, but it would be very wrong to carry this caution to the extent of refusing the authors of these preparations the justice to which they are entitled.

» Judging from the facts which we have had the honor briefly to lay before you, Gentlemen, we cannot but give a favorable decision as to the new ferruginous preparation now proposed by MM. Gélis and Conté, acknowledging at the same time that the clinical observations justify us in classing among the most useful ferruginous preparations the new salt with which these gentlemen have had the good fortune to enrich our *Matéria Médica*.

» Your Committee therefore propose that the Academy shall order a letter of thanks to be addressed to MM. Gélis and Conté, and direct their memorial to be printed in the Bulletin of the Academy. »

(Adopted.)

(1) For some of our chlorotic patients we prescribed Spa water simultaneously with the Lactate of Iron, but they were not cured more expeditiously than those who took the latter medicine only.

## LA CHARITÉ HOSPITAL.

Department of Drs. ANDRAL, BOUILLAUD, FOUQUIER and RAYER.

(From the *Gazette médicale*).

CASE I.—C. V., a young woman aged 21. Menstrual discharge commenced at sixteen; half a year later was troubled with palpitations of the heart, shortness of breath, and pains in the limbs, so that she was obliged to leave her situation as lady's maid. Continued in this state six months, and then got admitted to the Clinical Hospital of the Faculty. Her treatment there consisted of wormwood tea, pills of subcarbonate of iron, and Spa water. She left the hospital six weeks after, without experiencing any relief (as she herself thought). She then passed eight months in Paris, and four in the country, working very little, and taking nothing for her complaint but a cup of new milk every morning. She next spent eight months with her family, who thought her consumptive. When 18 years of age, she entered the hospital of La Charité, and was submitted to a treatment of subcarbonate of iron and Spa water. After staying two months in the hospital, she left it on the 21st August, rather better than when she left the Clinical Hospital. Entered a family as companion, and stayed a year. During that interval if ever she took a long walk, she was so fatigued, as to be obliged to keep her bed for a day or longer.

On the 19th December, she again entered the Charité. (Treatment: compound pills of iron, Peruvian bark, and cinnamon; gentian wine; bitter infusions.) After remaining ten weeks without obtaining any relief, she left, and for four months took no medicine at all; she then entered La Charité for the third time. (Diagnosis: chlorosis and hypertrophy of the heart, for which foxglove pills were prescribed.) Finding no improvement, she left in a fortnight. During the four years she continued in this state, her menses were very irregular, small in quantity, and so nearly colorless that she scarcely knew when they came on. Two months after leaving La Charité for the third time, her face was pale as death, and she could not get up the hospital stairs without resting two or three times. People who met her thought she was on the point of fainting. Pains in the head when she walked, giddiness, noises in the ears, throbbing in the arteries, humming in the carotids, very violent beating of the heart, bad appetite; dull pains in the limbs; menses as before. Scarcely able to walk. In this condition, she applied to Dr. Beau, who was then replacing Dr. Fouquier. He prescribed eight Dragees of Lactate of Iron. A week afterwards, on the 4th October, her appetite had much improved, she could walk up stairs with less difficulty; the color had returned to her cheeks: the noise in the arteries continued.

On the 12th, she could go up stairs easily. On the 13th, she went on foot from La Charité to the Faubourg du Temple (above two miles) and back again without fatigue. Her father and sisters, who had not seen her for a long time, found her much better. Her menses, which had first appeared on the 1st October, returned on the 21st (15 Dragees of Lactate of Iron) of the same month, more abundant and higher-colored than before. The noise in the arteries much diminished.

The 14th November, the menstrual discharge appeared in larger quantity and higher colored than ever; the complexion became fresh and rosy; the appetite excellent; the noise in the arteries ceased: the beatings of the heart were still perceptible, which justified Professor Bouillaud's diagnosis of hypertrophy of the heart.

This patient is so pleased with her improved condition, that she speaks of it to every one; she does not venture to cease the use of the Lactate of Iron. She is employed in the laundry of the hospital.

CASE II. — Miss B..., aged 18 years, catamenia commenced at 15, entered the hospital the 28th October.

She had not enjoyed perfect health for three years; courses always irregular; sometimes two or three months elapsed without their appearing, and they were almost colorless.

On entering, she complained of palpitations of the heart when she walked up stairs; painful weakness in the legs; her face was swelled and colorless; oedema of the lower extremities. She suffered from cephalalgia and giddiness; the carotids gave a humming noise with the stethoscope; depraved appetite.

The 29th October, Dr. Fouquier administered 6 Dragees of Lactate of Iron.

The 31st, the fever ceased (8 Dragees).

The 2nd November, the pains in the head much diminished, and felt only in the morning (15 Dragees):

The 4th, the noise in the carotid artery was less.

The 5th, the giddiness had ceased, and the appetite was very good.

The 6th, the menstrual discharge came abundant and high colored; she can go down into the garden without fatigue; the color reappeared in her cheeks; the eye became brighter; the cephalalgia had ceased.

The 9th, the noise in the carotid artery was slight; thinking herself extremely well, left the hospital, notwithstanding all our entreaties.

#### CASE OF CHLOROSIS MISTAKEN FOR AN ORGANIC AFFECTION OF THE HEART AND TREATED BY BLOODLETTING: USE OF THE LACTATE OF IRON.

*(Communicated by Professor Bouillaud.)*

CASE III. — M. Trouvé, aged 23, servant, entered 7th November.

Constitution delicate; lymphatic temperament, chestnut-colored hair; the menstrual discharge commenced at 16, since which it had always been irregular, and for the last three months ceased entirely. She has since been subject to pains in the head, stomach-ache, palpitations, shortness of breath; appetite good; no particular nausea; stools satisfactory; no cough; no leucorrhœa; had been bled seven or eight times in three years; twice during the last year. Foot-baths had often been prescribed.

Actual state: the humming in the carotids continuous, sometimes slight in the right, much stronger in the left; color of the complexion yellow; shrinking of the veins; blood of a violet tint in the vessels; soft blowing strongly characterized in the first sound of the heart (4 to 10 Dragees of Lactate of Iron every day; Spa water).

The 23rd, the patient had so much improved that she wanted to be discharged; the palpitations of the heart and the giddiness had ceased, as well as the pains of the stomach; appetite much better; the cheeks of a bright red color. Nevertheless there was still a continual humming and whizzing in the arteries of the neck on each side; soft blowing in the first sound in the subternal region of the aorta. The second sound clear; no remarkable continued blowing in the crural arteries; the courses have not returned; no signs of fluor albus.

#### CASE OF CHLOROSIS.

*(Communicated by the same Physician.)*

CASE IV. — M<sup>lle</sup>. Renault, a poulterer by trade, entered on the 10th October. Constitution delicate; temperament lymphatic; been seven months in Paris; fair complexion. Courses every month for two or three days, till fifteen months ago, when they ceased entirely, and previous to their last appearance she began to suffer from pains in the stomach. Appetite pretty good; stools normal. About five days before entering the hospital she vomited nearly a pint of blood; and a smaller quantity on the following day. The patient describes herself as habitually florid, and says she only lost her color after she vomited blood. Neither palpitations nor difficulty of breathing. Four days ago had four leeches applied on the epigastric region.

Actual state: complexion pale, altogether anæmic in the face and all over the skin; humming in the arteries on both sides; noise of blowing in the first sound of the heart; singing noise in the crural arteries.

The patient was ordered from 6 to 10 of Messrs. Gélis and Conté's Dragees daily, Spa water, and tonic diet (which was unfortunately insufficient at the hospital). In the course of a short time a great change was visible; the patient declared herself considerably better, and her appetite became very good; the pains in the stomach and vomiting of blood had disappeared, and the complexion which at her entry was pale and wan, had become florid; the cheeks had got plump, and the expression of the face pleasing. Her improvement was so remarkable that she would have quitted the hospital eight days before she did, if she had not been strongly advised to remain in order to consolidate the cure. Examined on the 9th November, the day of her discharge, the patient was found to be in an entirely satisfactory state, and the noise of the arteries was scarcely perceptible.

(Communicated by Dr. Rayer.)

CASE V.—Miss Gabriella L..., aged 17, a polisher, entered 5th October; her courses commenced at 14.

About the 1st September previous, she entered the Charity Hospital to be treated for chlorosis, and remained eighteen days, during which time she took subcarbonate of iron, and pills of iron, Peruvian bark, and cinnamon. At the end of that time she came out in consequence of family affairs, without relief. On her return she complained of painful weakness in her limbs. She had pains in the head; whizzing noise in the carotids; first sound of the heart a little slow. The menstrual discharge had disappeared for two months; abundant leucorrhœa; difficulty of breathing when going up stairs; impossibility of working.

The 7th, Dr. Rayer prescribed 6 Dragees of Lactate of Iron.

The 12th, the pains were gone; appetite increased.

The 16th, she asked for the three quarter ration.

The 20th, 12 Dragees; improvement continues.

The 23rd, the noise has ceased; color returned some time before.

The 30th, improvement continues; she worked in the house; the leucorrhœa had ceased; the blowing scarcely perceptible; the appetite was excellent; courses expected.

(Communicated by Messrs. Nonat and Rayer.)

CASE VI.—Margaret P..., entered the 10th October, aged 16, first courses at 12 years of age.

She has suffered from intense cephalalgia for two months past, so that she could not sleep; palpitations of the heart and dull pains in the limbs, which increase when she is walking up an ascent, appetite usually pretty good. However, on the 10th and 12th she only ate soup. She had gastralgia; her carotid arteries made a noise of blowing at the first sound; no appearance of the menstrual discharge since the commencement of August; face swelled, pale, and wan.

The 13th, Dr. Nonat prescribed 10 Dragees of Lactate of Iron.

The 16th, the cephalalgia allowed her to get a little sleep.

The 18th, it had ceased; the dull pains no longer existed: appetite very good.

The 19th, improvement continued; color returned to the face; noise in the carotid artery diminished. Patient discharged for insubordination.

The 23rd, re-admitted; the weakness, absence of color in the face, and noise in the carotid artery continued. Dr. Rayer gave her 6 Dragees of Lactate of Iron.

The 27th, noise in the carotid artery continued; appetite very good.

The 29th, menstrual discharge appeared of a rather high color.

The 30th, examined by Mr. Lenepveu, assistant of Mr. Rayer, who ascertained the cessation of the noises of the heart and carotid artery. The patient worked in the hospital. Discharged four days afterwards.

---

## FROM THE GAZETTE DES HOPITAUX.

---

*Treatment of chlorosis with Gélis and Conté's Dragees of Lactate of Iron,*  
by Dr. MANZINI.

The Lactate of Iron is a recent addition to the *Materia Medica*, discovered by Messrs. Gélis and Conté, bouse-pupils at La Charité Hospital. Being well aware of the insoluble nature of all preparations having iron for their basis, as well as of the more or less disagreeable forms in which they are offered, and considering the accidents which they sometimes occasion in the digestive organs, these gentlemen conceived the idea of substituting for them the Lactate of Iron, administered in a convenient form, easy of digestion, and also (no mean recommendation) agreeable to the taste.

The results already obtained by Drs. Andral, Bouillaud, Fouquier, Bally, and other eminent practitioners, soon gave a definitive sanction to the use of this medicinal agent, the advantages of which appear to be indisputable.

We give the results of the experiments made with the new medicine at La Charité, under our own observation.

The Lactate of Iron was administered to patients in that hospital in the shape of Dragees.

It unites the advantage, always valuable in a medicine to be taken inwardly, of being excessively easy of solution, offering to the digestive organs a salt with iron for its basis, the acid of which is found diffused in large quantities in the gastric juice, and in some other fluids of the system.

The almost complete insolubility of subcarbonate of iron, causes it to pass through the whole length of the digestive tube till it is ejected with the excrements, which it colors red, without having itself lost any of its properties; and from the difficulty of assimilation peculiar to this substance, results the unfortunate necessity of administering it in very large doses, which are successively offered to the digestive powers, merely to exhaust them, as the result is the absorption of only a few atoms. This is not the case with Lactate of Iron, which, being easily absorbed, requires only to be administered in small quantities.

Dr. Bouillaud never prescribed more than 20 grains in twenty-four hours, and Drs. Andral and Fouquier not more than 12, that is to say 12 Dragees, because each of them contains 5 centigrammes (1 grain) of Lactate of Iron. The treatment is generally commenced by 6 Dragees, 30 centigrammes (6 grains), in the twenty-four hours, the dose being increased every two days.

We shall only say one word concerning the sulphate of iron, which, being easy of solution, might be brought forward as a rival of the Lactate. But the inconveniences which result from the use of it are known, especially the pains in the stomach to which patients who take it are exposed.

The following facts will show the efficacy of Lactate of Iron.

#### *Chlorosis; dysmenorrhœa; rapid recovery.*—Dr. ANDRAL.

In the ward of Sainte-Marthe was a patient named Joséphine L..., aged 17 years, hair chestnut color, temperament lymphatic, menstrual discharge commenced at 16, entered the hospital 23rd of November. Seven months previously she observed a progressive deterioration of her health in consequence of a fright she had experienced; her face lost its color, her courses, which previously appeared high colored and abundant, became less in quantity, without color, and irregular; appetite diminished; palpitations and shortness of breath after the least exercise, and even while sitting still; humming in the carotid arteries; puffing at the first sound of the heart.

Twenty days after her admission, she took Lactate of Iron in a dose of 6 grains (6 Dragees daily). The tenth day her appetite increased; the Dragees were gradually increased to 7, 10 and 12.

The improvement continued. The 6th January, the usual time of her menstrual discharge, it appeared, and was abundant and deep colored for four days.

The patient is still in the hospital, and we were enabled to ascertain that the noise of the heart accompanying the first sound had ceased, and that there remained only a scarcely audible noise in the left carotid artery.

#### *Chlorosis; recent amenorrhœa.*—Dr. BOUILLAUD.

Eliza B... was admitted to Ste. Madeleine's ward on the 28th November. The patient was a cookmaid, aged 18, constitution lymphatic, delicate, light colored hair; had been in Paris one year; menstrual discharge commenced in her fifteenth year, but was never regular. She had been affected for some time with leucorrhœa, and was subject to headache and suffocation; the menstrual discharge had not taken place for more than a month. Was seized with pains in her right leg six days ago, and three days afterwards it began to swell up to the knee.

Actual state: complexion pale, cheeks slightly colored; want of appetite, preference for food of acid taste; stools in the usual state, humming in the carotids, noise of the heart normal; general weakness, shortness of breath and palpitation after the least exercise; subcutaneous veins almost invisible; pulse slow and fluctuating; noise of the heart distinct in the substernal aorta. Six Dragees of Lactate of Iron and Spa water prescribed.

The number of Dragees was progressively raised to twelve in twenty-four hours. The 11th December, being satisfied with the improvement she felt, and impatient to leave the hospital, she urgently requested her discharge, although her courses had not appeared. However, she affirmed that she felt quite well; her appetite, which was null on her admission, had so much improved that she wanted to be always eating. She felt strong; her cheeks were well colored; she went up and down stairs without feeling either shortness of breath or palpitations. The veins beneath the skin became apparent and of a blue tint, which was evidently caused by the healthy color of the blood in them; the pulse was no longer low and variable. A slight noise was heard at intervals in the carotid arteries.

*Amenorrhœa; consecutive chlorosis.*—Dr. FOUQUIER.

Caroline B... was admitted to Ste. Anne's ward on 21st November: age 21 years, constitution lymphatic, hair light, courses began at 16, and continued until she was 18; at that time a complete suppression took place in consequence of her having had the imprudence to dip her hands in cold water in winter, when her menses were flowing. This suppression continued for eighteen months, and was accompanied by all the symptoms of chlorosis.

In the nineteenth month after, the menstrual discharge appeared in consequence of the use of ferruginous preparations, wormwood, saffron, and other emmenagogues. Ferruginous water would not remain on the stomach, but was vomited; after having reappeared in the following month the menstrual discharge was again suppressed, and did not reappear till four months afterwards.

Actual state: face puffed, loss of appetite, constipation, palpitation of the heart after the least exercise, noise of blowing at the first sound of the heart, continued noise in the carotid arteries, headache, giddiness, pains and swelling in the inferior members, slight tendency to fever.

The 22nd, six Dragees of Lactate of Iron.

The 24th, appetite augmented (six Dragees).

The 26th, appetite good; fever and headache have ceased (8 Dragees).

The 29th, menstrual discharge appeared of good color (10 Dragees).

The 30th, suborbital neuralgia radiating towards the temple (12 Dragees).

The 4th December, appetite continues; arterial noises almost imperceptible and intermittent instead of continuous; no giddiness, no palpitations.

The 6th December, discharged, perfectly cured.

*Chlorosis, very decided; Amenorrhœa following a confinement; communicated by Dr. HARDY, Head-Physician of La Charité.*

A lady, aged 21, was confined in November, 1839; very serious phlebitis of the inferior members (mercurial frictions), serious stomatitis; slow recovery, chlorotic state very decided, face pale and puffed, palpitations and shortness of breath after the slightest exercise, gastralgia, general weakness, impossibility of walking even very short distances; the catamenial discharge did not appear, though it had always been regular previous to her pregnancy. Six months after her confinement, an abundant hemorrhoidal flux came on, and from that time this additional loss of blood occurs at the proper period for the menstrual discharge, all the symptoms above-mentioned continuing the same.

During the summer, passed in the country, an improvement took place. In the autumn on her return to Paris, the symptoms of chlorosis reappeared with greater intensity; the patient was unable to make two steps in the street without stopping to take breath; pain in the anterior region of the chest, loss of color in the face, frequent giddiness, noise in the head, buzzing in the ears.

The 1st December, 1839, a dose of eight grains of Lactate of Iron (eight Dragees) to be continued every day. Three days after, increase of appetite; eight days after that, remarkable return of color to the face; great relief experienced. Fifteen days afterwards the patient was able to walk a considerable distance; the 12th December, when she expected the hemorrhoidal flux in addition to the menstrual discharge, it did not appear, and no indisposition occurred in consequence. At the beginning of January, 1840, the symptoms of chlorosis had disappeared; no gastralgia, the skin had regained its natural color, no difficulty of breathing, no palpitations, no pain in the chest; the patient was able to walk long distances without fatigue.

The 10th January, about fourteen months after her confinement, the normal menstrual discharge reappeared.

# CHLOROSIS AND CHLORO-ANÆMIA

## IN THE MALE SEX,

By Dr. L. LEMAIRE, Ex-Chief of Clinics to the Paris Faculty of Medicine.

The affection designated by the name of *Chlorosis* or *green-sickness*, has long been regarded as confined exclusively to the female sex, and this opinion is still held by many distinguished practitioners.

We frankly confess that we cannot understand how, in the present state of science, any man can deny the existence of Chlorosis in males. Of course, for those who consider this affection as solely a derangement of the functions of the womb, or think it merely the result of a diminution or complete suppression of the menstrual flux, Chlorosis can assuredly only be found in females, and to suppose a man liable to it would be absurd. Those, on the contrary, who examine their patients in conformity with strict clinical principles, and are willing to take advantage of the recent discoveries in Chemistry, will readily perceive the correctness of our opinion.

Years have now elapsed since Professor BOULLAUD first demonstrated the existence of Chlorosis in males, and described the physical character of the blood in that disease. Scarcely a day passes but young medical students go to consult him for palpitations which, in their opinion, are the forerunners of Corvisart's aneurism. They are for the most part young men of pale complexion, nervous temperament, subject to pains in the head, giddiness, etc., all symptoms which disappear as if by enchantment under the influence of Lactate of Iron, so happily introduced into medical practice by MM. Gélis and Conté, and tonic diet.

The following six cases will suffice to demonstrate, at least so we hope, the possibility of Chlorosis in the male sex.

### FIRST CASE.

#### HOSPITAL OF LA CHARITÉ.

(*Professor Bouillaud's Ward.*)

Hubert Boigneaux, aged 24, day labourer, of Château-Landon (Seine-et-Marne), came to Paris on the 15th December, 1851, for medical treatment, and entered the Hospital of La Charité on the same day, as No. 3 in the ward of St.-Jean-de-Dieu. He had been vaccinated and never had the small-pox, nor any serious illness. He said that in August 1851, he took a sudden chill when perspiring profusely and was seized three days afterwards by a violent diarrhœa which obliged him to take to his bed. From this time he felt an acute pain in the right iliac region, and continued to suffer from it up to the time of entering the hospital. The day following this accident he was taken with retching after eating and drinking.

Leeches were immediately applied on the seat of the pain, but he never after was able to do any work.

#### PATIENT'S STATE ON HIS ADMISSION TO THE HOSPITAL.

His constitution was rather weakly, his temperament lymphatico-nervous, the skin of his face somewhat bronzed, his look stupid, the pupils of his eyes dilated, temperature of the

skin about the average; pulse from 76 to 80, and regular. The extent of the dull sound about the heart was within the normal limits. Slight puffing at the first sound at the base of the heart and prolonged in the aorta.

A puffing with a double current in the carotids, perfectly characterized, becoming continuous and musical in the vertical position; breathing altogether normal.

The abdomen, rather yielding, presented the usual conformation; in the right fossa, a rather heavy pressure was attended with acute pain.

No tumour, however, was found to exist in that region.

Dec. 16th. — Scarcely any change in the patient's state, but he complains of pains in the abdomen and more especially on the right side; slight tendency to retching.

The existence of the puffing with double current in the right carotid is again observed. Face pale and very thin, skin dark round the eyes, and the pupils dilated.

TREATMENT. — 3 Dragees of Lactate of Iron, morning and evening; infusion of wild succory; 3 portions; wine and roast meat.

17th and 18th. — The patient ejected part of his food.

19th. — Same treatment continued.

20th. — The retching has altogether ceased. The pain in the abdomen has disappeared. Appetite increased.

The anti-chlorotic treatment was continued. The patient soon gained flesh, and a month afterwards left the hospital completely cured.

REFLECTIONS. — The first idea that presented itself to our mind after reading the above case was that the patient must have been suffering from some gastro-intestinal affection. Indeed, it is not unreasonable, in this instance, to attribute to a more or less serious lesion of the digestive tube the persistence of the pain in the ilio-cæcal region, also the diarrhoea and repeated retchings; and yet these accidents, which were most likely to assume a more serious character under the influence of a tonic treatment, especially of Lactate of Iron, on the contrary entirely disappeared in the course of three or four days.

It certainly required the exquisite medical tact and consummate experience of Professor Bouillaud, to distinguish the exact nature of the disease in the midst of symptoms so conflicting and apparently so grave.

Nothing can be more capricious than the symptoms which often present themselves suddenly in persons suffering from Chlorosis and Chloro-Anæmia. Sometimes there are pains in the walls of the abdomen so acute as often to mislead the physician into the immediate adoption of a treatment for peritonitis. At others, the patient complains of giddiness accompanied by cephalalgia so violent that we have known practitioners weak enough to yield to the urgent entreaties of patients, who, fearing an attack of apoplexy, were anxious to be bled.

It is therefore indispensable, in all such cases, to make the diagnosis with the most scrupulous care, and by no means to act till quite convinced of its correctness.

## SECOND CASE.

### HOSPITAL OF LA CHARITÉ.

*(Professor Bouillaud's Ward.)*

Francis Legrand, aged 21, a tinman, admitted on the 3d August 1852, as No. 21, in the ward St.-Jean-de-Dieu.

Ordinary constitution, lymphatico-nervous temperament.

Ten years before, he had the ague for 13 months, and two years ago he was treated for pain in the loins with lassitude in all his limbs, but not accompanied by much fever, and was able to return to his occupation on the third day.

Last March, after taking cold, he was seized with pains in his limbs, but no fever, and was bled twice for them.

In the following month he was again bled, for an acute pain in both hypochondria. Two blisters were applied, but the pain in the left side was not relieved.

For the last six weeks, he has been subject to sudden fits of extreme weakness. He feels his strength going, and has barely time to sit down. In this state he sees nothing of what passes around him, but can hear the persons who speak to him. This fit lasts eight or ten minutes without either convulsions, cries, or foaming at the mouth.

He has had five of these fits in the course of six weeks; the last only a fortnight ago.

For some time past, his digestion has been bad, and he has suffered from pains in the head, especially about the occiput.

**ACTUAL STATE.**—Rather emaciated; nothing to notice in the digestive organs. Tongue moist and clean; very sensitive on the epigastrium; digestion easy; the spleen rather larger than the normal size.

The heart beats within its usual limits; sounds normal, but the first sound somewhat prolonged near the base. Continuous puffing in the right carotid.

Pulse weak, soft, but little developed, regular

Cephalalgia accompanied with giddiness; frequent palpitations.

**TREATMENT.**—Infusion of linden-leaves and orange-flowers, 3 Dragees of Lactate of Iron, morning and night; 3 portions, wine and roast meat.

15th August. — Had no fit since his admission. Sleeps and eats well. Very little cephalalgia; slight pain in the right side of the chest; persistence of the puffing in right carotid, but weaker.

3rd Sept.—No fits, nor pains in any part. The patient has become cheerful; sleeps well. Requested his discharge.

### THIRD CASE.

## HOSPITAL OF LA CHARITÉ.

*(Professor Bouillaud's Ward.)*

Andrew Poirier, mechanician, aged 21, admitted 21st July, 1852.

Temperament exceedingly nervous and rather lymphatic; constitution delicate.

Nine years ago, he states that he had an inflammation of the intestines, from which he recovered at the end of three months, after a treatment consisting of bleeding, leeches, and poultices.

Two years subsequently, he was under medical treatment for a brain fever, which lasted four months, but he could give no account of what medicines he took.

He had also suffered from gastralgia (this was the very word he used), which came on soon after his inflammation of the bowels, and has never been cured, though he was bled for it eight or ten times in the course of three years. Both his arms bore numerous marks of bleeding.

He said that one day he fainted on entering his mother's house, and the doctor who was sent for bled him immediately; and that a similar occurrence took place again some time after.

**PRESENT STATE.**—Face rather pale and thin; complains of violent palpitations of the heart, which are very easily caused. "Both joy and grief," he says, "cause me equal suffering."

Sleep often agitated; pains in the head, giddiness, and violent pains in the stomach which prevent him from eating.

Painful sensation at the lower part of the chest; pulse low, soft, but regular, becoming suddenly quick, as do the beatings of the heart when questions are put to him, especially by the physician. A gentle soft puffing was heard at the base of the heart, perceptible only at the first sound, and continuing along the aorta; evidently an anæmic puffing.

In other respects the sounds of the heart were perfectly normal.

The extent of the dead sound about the heart was also normal. A very decided continuous puffing in the two carotids. The tongue moist and clean; nothing particular in the other organs; the patient complained of extreme weakness.

**TREATMENT.**—3 Dragees of Lactate of Iron morning and night, infusion of chicory and linden-leaves; 3 portions, wine and roast meat.

He followed the above course of treatment very strictly till the 15th August, when he asked to be discharged.

He declared that he no longer felt either palpitations, giddiness, or pains in the head. The cramp in the stomach which had never left him long during two years previous to his admission, had altogether ceased. His appetite was good and his digestion also.

Nevertheless the puffing in the carotids still continued.

**REFLECTIONS.**—The abuse, as well as the untimely use of bleeding, in this case and the preceding, brought on a state of Chloro-Anæmia, distinctly characterized, with a predominance of nervous-phenomena extremely painful for the patient.

In one we find there were fits with sudden loss of sensibility, which bore some resemblance to epileptic fits.

In the other, the most trifling excitement brought on such violent palpitations, that he was subject to fits of suffocation which caused him extreme alarm.

On the subject of the repeated bleeding to which these patients were subjected, we have one remark to make, which seems to us of some importance in a practical point of view.

It is an undeniable fact that bleeding, in most chlorotic patients, especially females, gives immediate relief, though of very short duration. Soon after, the same symptoms again make their appearance with still greater intensity; and, remembering the relief obtained from bleeding in the first instance, patients are eager to be bled again and again, and woe be to them! if their medical adviser, omitting to make a complete diagnosis, accedes to their wishes!

It is rather difficult, we freely confess, to explain this almost instantaneous relief chlorotic patients experience from bleeding. May it not be that this operation when practised on a person laboring under anæmia, acts in a peculiar manner on the nervous system so as to produce a kind of hysterical or rather ecstatic state, during which patients momentarily forget their sufferings? This explanation, which we lately heard suggested by Professor BOUILLAUD, does not appear to us improbable.

However it may be, far from having recourse to bleeding, which had already been carried to excess in these two unfortunate patients, Dr. BOUILLAUD, on the contrary, prescribed a tonic treatment, and especially the Lactate of Iron, which in both these cases was attended with most remarkable success.

In the case of Poirier, the gastralgia, which had persisted for more than two years, completely disappeared, as well as the palpitations and choking fits.

The other patient was effectually cured of his fainting fits, and pains in the head. In a word, both left the hospital free from all pain, with good appetites and sleeping well, that is to say, perfectly cured.

It must be acknowledged that these are two most remarkable cures.

#### FOURTH CASE.

M. B..., age 34, residing in Paris, at No. 7, Rue Laval, was a man of remarkably nervous temperament, and of an average constitution.

He stated that eight years before he had an attack of inflammation of the lungs, for which the only treatment he underwent was the application of 15 leeches.

Ever since his seventeenth year he had been subject to violent palpitations. He was also subject to a very unpleasant feeling of suffocation which came on chiefly at night, and often awoke him quite suddenly.

He also complained of a rather acute pain in the region of the left bladebone, about the lower corner, and radiating towards the heart, along the ribs, which made him apprehensive that he was attacked with hypertrophy of the heart. This idea got such hold of his mind that he successively consulted several Parisian physicians on the subject.

On the 10th October, 1851, I found him in the following condition:

Face very pale; suffering from violent palpitations and fits of suffocation, which made him very low-spirited and unfitted him for business; occasional giddiness, without any very decided cephalalgia.

Digestion not very good, but no pains in the stomach; he prefers meat to all other food, and digests it easily.

The pulse from 96 to 100 (the patient having just walked upstairs and being evidently somewhat excited). The heart palpitating strongly, the throbbing being violent enough to raise a suspicion of a certain degree of hypertrophy, but percussion did not enable me to discover anything abnormal. The apex of the heart beat in the fifth intercostal space, quite within the nipple. The transversal and vertical diameters measured about two inches and a half.

The two sounds of the heart perfectly clear without puffing.

Loud noise in the left carotid artery.

The tongue moist and clean.

No trace of lesion in the respiratory organs.

Nothing remarkable in other respects.

The patient chiefly complains of palpitations of the heart and the suffocation he often experiences in the night, both of which affections have become worse of late, and for that reason he came to consult me.

I advised the patient to rest from his occupations and endeavor to amuse himself.

Also to take 3 dragees of Gélis and Conté's Lactate of Iron; and three saline baths every week.

Substantial diet and good wine with his meals.

Four months elapsed before I again saw my patient, when I accidentally met him in the street. He then told me that after following the treatment I prescribed for two months running, the palpitations of the heart had entirely ceased, his fits of suffocation had almost left him, and he thought himself completely cured. However he still complained of the pain in the bladebone already mentioned, though it had shifted to the upper edge of the bone. I advised him to apply occasional blisters and to take a sulphur bath now and then, which he did, and was benefited.

REFLECTIONS.—We especially recommend the case last described to the attention of young physicians just beginning to practise.

The patient was a young man of an extremely nervous temperament, who for years suffered from fits of suffocation during the night, and continual palpitations of the heart, which made him apprehensive of some disease in that organ.

How many young men of the world, medical students especially, might be ranged in the same category as M. B...! With them palpitations are the predominating symptom: their minds dwell on it day and night, it is a kind of fixed idea which it seems impossible to get out of their head, and which is very apt to end in hypochondria, or rather nosomania.

Such patients are often very difficult to manage. It is essential in the first place to act upon the moral faculties; and after carefully ascertaining the state of the heart, that is to say, after ascertaining beyond all doubt that it is affected only with a neurosis, to recommend gymnastic exercises, riding, field sports, etc., taking care to inform them that such means would be likely to aggravate a disease of the heart if it really existed; then prescribe simultaneously, of course, strong doses of Lactate of Iron, and other tonics.

#### FIFTH CASE.

Renaut, a working man, living at No. 4, Cour Lamoignon, of a lymphatic temperament and rather weak constitution.

When eighteen years of age, he had the small pox, and the illness consequent thereon compelled him to keep his bed four months.

At twenty-five, he was attacked by violent pains in the head, for which he was treated at the Hôtel-Dieu by means of leeches applied at the anus, and emollient draughts.

He left the hospital after staying about a month.

Since then he states that he has enjoyed very good health, though always subject to palpitations.

The patient came to consult me on the 6th July, 1852. His state was then as follows:

Face pale and rather yellow in its inferior oval, with an expression of fatigue.

The patient complained of frequent palpitations, which always become worse when he works or walks up stairs. Indeed, this appears to be his habitual condition. He is subject to dreams, and says he is rather timorous. Any unusual excitement, it seems, is followed by a sensation of cold at the extremities and a tendency to faint.

Pulse regular, imperfectly developed, rather soft, not particularly quick (80 to 84 pulsations).

Auscultation and percussion discover nothing unusual about the heart, the sounds of which are clear, without any puffing. In the right carotid a continuous puffing is perceptible, interrupted at long intervals by a perfectly characterized musical humming.

The resonance of the chest is very good, as is also the vesicular murmur. The tongue is moist and clean.

For some time his appetite has been bad, with a decided preference for salads and other acid food.

Habitual cephalalgia with giddiness and buzzing in the ears.

I prescribed 3 Dragees of Gélis and Conté's Lactate of Iron, morning and evening.

Met, game as often as possible, and wine with meals.

22nd July.—The patient states that during the first three days of his taking the Lactate of Iron, he felt oppression in the stomach, followed by looseness of the bowels on the fourth day. After this was over, from the sixth day he got better and better (1).

(1) It not unfrequently happens that the Lactate of Iron produces either colic or diarrhoea the first few times of taking it, and sometimes even a feeling of oppression in the stomach.

Patients should not be discouraged by these accidents, as they soon cease and are immediately followed by a decided improvement.

The pains in the head have altogether disappeared. His appetite is good and all he eats digests readily.

He is not liable to palpitations unless he over exerts himself.

A slight noise is still perceptible in the right carotid.

The same treatment continued.

12th Aug.—The patient has recovered flesh.—His face has a color. All the functions are performed with perfect regularity. His appetite continues good. Digestion easy. The palpitations and pains in the head have not returned.

REFLECTIONS.—This is another of those cases remarkable for the rapidity with which all the best characterized symptoms of chlorosis as it were vanished under the influence of this medicine.

This case also presents some analogy with the preceding. It exhibits a similar tendency to fainting preceded by sudden coldness of the extremities. Only, in this last instance, the palpitations and functional derangements of the digestive organs were far greater and of long standing. We may also call attention to the very decided predilection for acid food, a feature far commoner among chlorotic females than in men.

#### SIXTH CASE.

### HOSPITAL OF LA CHARITÉ.

*(Professor Bouillaud's Ward.)*

Eugène Viard, aged 18, residing at No. 26, Rue de Bièvre, was admitted on the 7th July, 1852, as No. 26 in the ward of St. Jean-de-Dieu.

Sickly constitution, lymphatic temperament, had the small-pox when two years old. He states that he was under medical treatment for brain fever twice in two years. Ever since the last attack, about three years since, he has been subject to cramp in the stomach, and retching, which often occurred three times in one day, and troubled him for nearly three months; he has palpitations of the heart, pains in the head, fits of giddiness, with loss of appetite, and a strong preference for vegetable food, especially that of an acid nature. Has been troubled with a cough for some years past.

All these symptoms having become greatly aggravated, he was compelled to leave off working a fortnight ago.

PRESENT STATE.—General emaciation. Pale face. Dark about the eyes. Pupils dilated. The pulse is from 88 to 92, very partially developed, regular; the heat of the skin is rather above the normal temperature. Sounds of the heart normal, no puffing; frequent palpitations; decided tendency to suffocation, with pain in the substernal region.

The resonance is good all over the chest; vesicular murmur rather strong, blended with a hissing rattle occasionally.

A rather musical humming in the right carotid.

Little appetite, a distate for meat, a longing for acids.

Digestion rather difficult.

Tongue moist and clean; no pains in the abdomen.

The abdomen soft; no diarrhoea.

TREATMENT.—Infusion of marsh-mallow flowers sweetened with syrup of gum; two pints; low diet.

10th July.—Fever gone. The rattle in the bronchiæ has ceased, but the chlorotic symptoms remain unchanged.

TREATMENT.—3 pills of Lactate of Iron, cinchona wine, a sulphur bath; 2 portions.

25th July.—The patient still complains of suffocation and pains in the sternal region.

It is ascertained beyond all doubt that he is addicted to masturbation.

Dr. BOUILLAUD threatened to discharge him if he persisted in that pernicious practice,

Same treatment as before, but 3 portions of food instead of two.

9th August.—Digestion improved, with less head-ache. Occasional palpitations and agitation during sleep. His appetite has returned and he feels much better. However he still complains of suffocation, and his whole thoughts seem directed to that symptom.

He asked to be discharged, and left the hospital accordingly, but returned on the 20th August with nearly the same symptoms.

**REFLECTIONS.**—The chlorotic or chloro-anæmic condition is so common at Paris and in all large towns, that it is nearly present always as a troublesome complication in patients who enter the hospitals for any acute disease more or less serious. It is evident that the acute affection ought first to occupy the physician's attention, but not to the overlooking of the chlorotic state, which must be treated afterwards.

This is the very course followed in the present case. The patient suffered from a slight attack of acute bronchitis, which was soon relieved by emollient infusions, julep, and low diet; then the chloro-anæmic symptoms predominated and the patient was ordered to take Lactate of Iron.

But let us particularly observe the results obtained in this case from the use of that medicine. That is an important point on which we would most especially fix the attention of practitioners.

The reader must have observed that the greater part of the nervous symptoms which arise from the chlorotic state, resisted for some time at first, but afterwards greatly decreased without disappearing altogether; and that the patient, after leaving the hospital, greatly relieved, soon came back again for the same cause.

Evidently, the ferruginous treatment did not produce in this case the immediate and durable results we have had to notice in other patients.

Are we to blame the Lactate of Iron for it? Certainly not. It must not be forgotten that this young man indulged in the pernicious habit of masturbation. Now, in presence of a cause incessantly renewed, which completely exhausts the nervous system, while it at the same time considerably impoverishes the whole mass of the blood, what can be done? The Lactate will be ineffective, or, at best, if it perceptibly modifies certain morbid symptoms at first, the improvement cannot be of long duration, and it will be just the same in cases of involuntary seminal emissions.

The cause must first be sought out and removed at any cost, for so long as it subsists, no cure is possible.

*Sublatâ causâ tollitur effectus.*

Every practitioner well knows all the difficulty of treating such cases, at least in civil practice.

Since the superiority of our Dragees of Lactate of Iron has been fully established, they are in daily use both in the hospitals, and among the private patients of the most celebrated physicians, amongst whom we will mention Drs. Andral, Andry, Bouillaud, Bérard, Bally, Bousquet, Bussy, Beau, Blache, Baudrimont, Briquet, Capuron, Duval, Emmery, Fouquier, Gerdy, Guersent (sen.), Guersent (jun.), Guéneau de Mussy, Guérin (Jules), Honoré, Jobert de Lamballe, Keraudren, Lisfranc, Martin-Solon, Miquel, Maisonneuve, Nonat, Pelletan, Récamier, Rayer, Ricord, Rochoux, Trousseau, Velpeau, etc.

All the medical journals gave expressed favorable opinions of our preparation. We shall confine ourselves to mentioning the *Gazette médicale de Paris*, which has noticed our medicine in several numbers, particularly on the 8th February and 7th of March, 1840; the *Bulletin de Thérapeutique*, on 15th and 30th March, 1840; the *Expérience*, on 6th February, 1841; the *Gazette des Hôpitaux*, on many occasions; the *Journal des Connaissances médico-chirurgicales*, on the 3rd March, 1840; the *Journal des Connaissances médicales et de Pharmacologie*, in the number for March, 1840; the *Journal de Chimie médicale*, in the number for the same month; the *Esculape*, on 2nd August, 1840; the *Temps*, on 10th February, 1840, etc.

Several publications of physiology and pathology, among which those detailing the very remarkable experiments of MM. Claude Bernard (de l'Institut de France), Barreswill, Lemaire, etc., have since fully established the advantages of this preparation, which affords the means of administering Iron in the state most readily assimilable, blunder the agreeable form of a sugar-plum. This fact explains why physicians generally prefer Gélis and Conté's Dragees to other preparations of Iron.

Lastly, the superiority of Gélis and Conté's Dragees over all other ferruginous preparations is further established in a report recently

presented to the Imperial Academy of Medicine by Dr. Felix Boudet (1), after a series of experiments made for the purpose of ascertaining whether the salts of iron, which are precipitated by contact with the gastric juice, cannot be absorbed but at the expense of a greater or less proportion of that precious fluid intended for another use.

To verify this fact, Dr. Boudet devoted much time to the study of the digestive properties of the gastric juice in presence of the salts of iron. Dr. Boudet says :—

« The experiments were made in presence of M. Robiquet, in M. Bondault's laboratory, with his aid and also Dr. Corvisart's, and by means of processes invented by them. These skilful observers intend publishing a complete description of their processes in a general treatise on the reciprocal action of a great number of medicines and the gastric juice. I shall therefore treat the subject very briefly :—

» When 4 grammes (61 grains) of fibrine are put into a phial with 10 grammes (154 grains) of fresh gastric juice taken from the stomach of a dog, and the mixture is kept at the temperature of 40 deg. centigrade (104 Fahr.) for six hours, the fibrine is dissolved, converted into albuminose, leaving a fluid without the least perceptible taste of fibrine. But on introducing into the phial with the fibrine and gastric juice any substance capable of entirely or partially paralysing the action of the gastric juice on the fibrine, it will be found that the fibrine will not be digested at all, or but very imperfectly.

» To ascertain whether the digestion was complete, Drs. Bondault and Corvisart submit the result of each experiment to three successive tests : 1. that of ebullition ; 2. that of Barreswill's liquor ; 3. that of Barreswill's liquor with the addition of glucose.

» When the digestion is complete the product does not coagulate at a temperature of 100 deg. (212 Fahr.); turns violet when boiled with Barreswill's liquor, and prevents the latter from being reduced by the glucose.

» On the contrary, when the digestion is null, the product does not turn violet when boiled with Barreswill's liquor, and in no way prevents the reducing action of the glucose on that liquor.

» Lastly, when the digestion is incomplete, the product obtained is more or less coagulated by the heat, becomes more or less violet in its tint under the action of Barreswill's liquor, and more or less interferes with the reducing action of the glucose on the said liquor, according as the digestion is more or less advanced.

» I applied this series of tests to several ferruginous compounds, taking of each a quantity representing 5 centigrammes of metallic iron.

» The following were the results observed :—

» With the Lactate. . . . . Complete digestion. »

(The presence of the salts of iron in no way affects the action of the gastric juice on the fibrine.)

« With the ferro-potassic tartrate. . . . . No digestion.

» With the citrate of iron. . . . . Ditto.

» With the pyrophosphate of iron. . . . . Ditto.

» With iron reduced by hydrogen, 1 centig. . . . . Complete digestion.

» With iron reduced, 2 centig. . . . . Incomplete digestion.

(1) Report on the therapeutic use of the Pyrophosphate of Iron, presented to the Academy of Medicine, 13th July, 1858. The Committee was composed of Drs. Velpeau, Dopaul, Bouchardat, Trousseau, and Boudet (the Reporter).

» The trial with pyrophosphate of iron and soda presented a peculiar difficulty ; that salt only existing in a very diluted state, to introduce a proportion representing 5 centig. of iron, it would have been necessary to employ a quantity of liquid which would have annulled the properties of the gastric juice. I was consequently compelled to take only one gramme of each of the following solution :—

» 1. Solution of the ferro-sodaic pyrophosphate, according to the formula, of M. Persoz, 1 gramme representing 3.5 milligrammes of iron... Half digested.

» 2. Solution of ferro-sodaic pyrophosphate, according to the English formula, 1 gramme representing nearly 5 millig. of iron... Incomplete digestion.

» Solution of ferro-sodaic pyrophosphate, formula of M. Leras, taken from a phial sealed and labelled, giving 1 gram. 10 centig. of dry residue for 100 grammes, and representing 1 millig. of iron... Complete digestion.

» The results obtained with the lactate, the tartrate, and the citrate of iron and the reduced iron, are precisely the same as were found by Drs. Bondault and Corvisart in previous experiments ; they show that the citro-ammoniacal pyrophosphate of iron, as well as the salts of iron whose efficacy is indisputable, the tartrate and citrate of iron, and reduced iron itself, possesses the property of paralysing the digestive action of the gastric juice, and that the Lactate of Iron alone is perfectly innocuous in that respect.

» The solution of the ferro-sodaic pyrophosphate prepared by M. Leras appears, at first view, to have the same virtue ; but when it is considered that the quantity of one gramme experimented upon, represents nearly a milligramme of metallic iron, and M. Persoz's solution, and the English fluid, which contain, the former 3.5 milligrammes, and the latter nearly 5 milligrammes of iron in each gramme, reduces the digestion one half, does it not become evident that M. Leras's solution, which differs from these fluids only in its greater dilution, owes its innocuity solely to that circumstance, and that if it could be mixed with the gastric juice in the same conditions as M. Persoz's solution, and the English solution, it would, like them, annul the digestive powers of the gastric juice ?

» It is manifest that these experiments supply a new argument in favor of the Lactate of Iron ; the facts observed in medical practice, and the researches of the chemist all tend towards the same point, and mutually support each other. We will also, in concluding, remark with Dr. Boudet that the innocuity of the Lactate of Iron with regard to the digestive powers of the gastric juice, must be a favorable circumstance in the use of that salt, and we will add, what he might very well have said, because it naturally follows from these experiments, that the use of Gélis and Conté's Dragees presents, with regard to digestion, a most decided superiority over all other ferruginous compounds. »

---

## MANNER OF USING

# GÉLIS AND CONTÉ'S DRAGEES.

All physicians well know that the virtues of iron as a medicine are indisputable. There are few substances of which the medicinal action has been studied with so much care or by so many practitioners. Modern treatises on therapeutics and *Materia Medica* devote large space to the discussion of the different preparations of this metal, and physicians are every day prescribing them for many different complaints. For instance, we constantly see one or other of them prescribed by our most eminent practitioners for patients exhausted by long fevers or chronic diarrhœa, for chronic weakness of the stomach, for hypertrophy of the spleen, and for certain hemorrhages of the intestinal canal. Dr. Marc, head-physician to King Louis Philip, used them with success in intermittent fevers, but it is more especially for the treatment of those general morbid states known under the name of chlorosis (green-sickness), anæmia, and chloro-anæmia, and against amenorrhœa, dysmenorrhœa, chronic leucorrhœa (fluor albus) which usually accompany them, that they are more particularly recommended; for these ferruginous preparations are real specifics in all cases when the impoverished blood requires strengthening elements; for pale and colorless children, who have been ill-fed; for persons of either sex, when of delicate constitutions, or exhausted by hemorrhages of any kind; and lastly, for all females suffering under irregular or suppressed catamenia.

They are equally beneficial in certain cases of neuralgia and dropsy, also against incontinence of urine, owing to weakness in the bladder.

The Academy of Medicine itself has declared that Gélis and Conté's Dragees may be advantageously substituted for all the ferruginous preparations hitherto used. From the cases described in the preceding pages, it is evident that the proper dose ranges from 6 to 12 per day. Dr. Bouillaud never exceeded the latter number for females.

It is advisable to begin by taking three in the morning and three in the evening, an hour or two before or after a meal; the dose is to be increased every three or four days by one dragee morning and evening, until twelve are taken in a day, and that number need seldom be exceeded. For children the dose varies according to age. Six or eight per day is the maximum at 6 or 7 years of age; and four for those below that age.

The action of the Dragees is greatly facilitated by a tonic diet and moderate exercise.